<u>Amendments to the Specification</u>

The paragraph starting at page 5, line 14 and ending at page 6, line 11 has been amended as follows.

First of all, as shown in Fig. 11, ink is discharged from, for example, three nozzles, i.e., nozzle 1, nozzle 2, and nozzle 3, of the ink-jet head IJH onto a predetermined substrate P, and the sizes of ink dots formed on the substrate P by the ink discharged from the respective nozzles <u>are measured</u>, thereby measuring the amounts of ink discharged from the respective nozzles. In this case, the width of a heat pulse applied to the heater of each nozzle is kept constant, and the width of a pre-heat pulse is changed. With this operation, a curve like the one shown in Fig. 12 can be obtained, which represents the relationship between the pre-heat pulse width and the ink discharge amount. Assume that all the amounts of ink discharged from the respective nozzles are to be unified to 20 ng. In this case, it is obvious from the curve shown in Fig. 12 that the width of a pre-heat pulse applied to nozzle 1 is 1.0 μs; to nozzle 2, 0.5 μs; and to nozzle 3, 0.75 μs. By applying pre-heat pulses with these widths to the heaters of the respective nozzles, all the amounts of ink discharged from the respective nozzles can be unified to 20 ng, as shown in Fig. 13. Correcting the amounts of ink discharged from the respective nozzles in this manner will be referred to as bit correction.

The paragraph starting at page 12, line 13 and ending at line 24 has been amended as follows.

The ~~occurrence mechanism~~ cause of the above phenomenon can be explained as inter-nozzle crosstalk due to the propagation of the pressure wave of ink from an ink chamber 114 to each liquid channel 110. That is, as compared with the case of "(e)" wherein ink is discharged from the nozzle of interest alone, in the case of "(a)" wherein ink is simultaneously discharged from the 80 ch nozzles, pressure waves of discharged ink from the remaining nozzles (79 ch) other than the nozzle of interest (ch12) enhance discharging of ink from the nozzle of interest (ch12), resulting in an increase in discharge amount in the case of "(a)".

The paragraph starting at page 14, line 13 and ending at line 21 has been amended as follows.

In addition, variations in the discharge amount of the nozzle of interest (ch12) with respect to the differences in discharge timing among the nozzles other than the nozzle of interest are influenced most by the nozzle adjacent to the nozzle of interest. When the cases of "(c)" and "(d)" are compared, nozzles separated from the nozzle of interest by three ~~of~~ or more nozzles have some ~~influences~~ influence on the variations in discharge amount.

The paragraph starting at page 26, line 14 and ending at line 16 has been amended as follows.

~~Fig.~~ Figs. 40A to 40D are ~~view~~ views showing an example of the process of manufacturing a surface-conduction emission type electron-emitting device;

The paragraph starting at page 29, line 24 and ending at page 30, line 1 has been amended as follows.

In the apparatus shown in Fig. 1, the three ink-jet heads 55 are arranged in correspondence with three colors, i.e., R, G, and B. Since these three heads have the same structure, Fig. 3 shows the structure of one of the three heads as a representative example.

The paragraph starting at page 30, line 17 and ending at page 31, line 5 has been amended as follows.

The heater board 104 and the ceiling plate 106 are positioned such that the position of each heater 102 coincides with that of a corresponding liquid channel 110, and are assembled into the state shown in Fig. 3. Although Fig. 3 shows only two heaters 102, ~~the~~ a heater 102 is arranged in correspondence with each liquid channel 110. When a predetermined driving pulse is supplied to the heater 102 in the assembled state shown in Fig. 3, ink above the heater 102 boils to produce a bubble, and the ink is pushed and discharged from the orifice 108 upon volume expansion of the ink. Therefore, the size of a bubble can be adjusted by controlling a driving pulse applied to the heater 102, thereby

controlling the volume of the ink discharged from each orifice. Parameters for control include, for example, power to be supplied to the heaters.

The paragraph starting at page 34, line 18 and ending at page 35, line 6 has been amended as follows.

The resin composition layer 3 is then colored at once by discharging R (red), G (green), and B (blue) inks thereto by an ink-jet system, and the respective inks are dried as needed (Fig. 5E). The ink-jet system ~~includes~~ can be a system using heat energy ~~and~~ or a system using mechanical energy. Either system can be suitably used. Inks to be used are not specifically limited as long as they can be used for the ink-jet system. As coloring agents for the inks, agents suited for transmission spectra required for R, G, and B pixels are properly selected from various kinds of dyes or pigments. Although ink discharged from the ink-jet head may adhere to the resin composition layer 3 in the form of a droplet, ink preferably ~~adhere~~ adheres to the layer in the form of a column instead of being separated from the ink-jet head in the form of a droplet.

The paragraph starting at page 42, line 12 and ending at line 17 has been amended as follows.

Note that each discharge driving element is equivalent to a heater in a ~~bubble-jet~~ Bubble-jet (registered trademark) head. In a piezoelectric head, this element is

equivalent to a piezoelectric element used on a discharge driving side wall of the ink chamber of a nozzle.

The paragraph starting at page 45, line 16 and ending at page 46, line 2 has been amended as follows.

As described in "(3)", a discharge amount change amount (to be referred to as a correction sensitivity K in this case) obtained when a voltage is changed is calculated from the difference between two points, i.e., a point Vd2 at which the discharge amount is large and a point Vd1 at which the discharge amount is small, and the difference between corresponding voltage values V2 and V1. Note that Fig. 22 shows the relationship between the voltage value and the corresponding ink discharge amount, and the correction sensitivity K corresponds to the gradient of the straight line shown in Fig. 22. In this case, the discharge amount of each nozzle is measured when driving signal voltages are set to 18 V, 20 V, and 24 V.

The paragraph starting at page 64, line 1 and ending at line 6 has been amended as follows.

With this method in Fig. 32, even if the nozzle B becomes ~~fault~~ <u>faulty</u> and filter printing operation is performed without using the nozzle B, the discharge amount of

the adjacent nozzles A and C is kept constant, and the amount of ink discharged onto each pixel of a filter is kept constant.

The paragraph starting at page 64, line 12 and ending at line 18 has been amended as follows.

In some cases, even if all nozzles are simultaneously driven, the ~~lading~~ landing positions for the respective nozzles vary due to manufacture precision variations among ink-jet heads. In this case, the landing position for each nozzle must be corrected by slightly advancing/retarding the driving timing of each nozzle. Consider such a case below.

The paragraph starting at page 65, line 7 and ending at line 23 has been amended as follows.

Even in performing printing operation using the same ink-jet head, when, for example, the shape, size, or material of a filter changes, the moving speed (scanning speed) of the ink-jet head changes at the time of printing operation. Along with this change, a discharge timing for compensation for a landing position changes. As a consequence, the degree of influence of adjacent nozzle crosstalk changes, and the discharge amount changes. If, for example, the moving speed decreases, the difference in driving timing between adjacent nozzles increases. In this case, the discharge amount ~~is~~

generally decreases. This decrease in amount is determined when the moving speed of the ink-jet head is determined. Therefore, a discharge amount control value that makes the discharge amount of each nozzle equal to a constant desired value can be determined.

The paragraph starting at page 67, line 7 and ending at line 23 has been amended as follows.

In order to shorten the time required for filter printing, it is required that printing be performed in both the forward and backward paths of movement of the ink-jet head. In this case, the discharge timing shift amount for the correction of a landing position for a given nozzle B reverses in sign. More specifically, if, for example, the driving timing of the nozzle B is advanced from that of the nozzles A and C by 1 μsec in printing operation in the forward path to correct the landing position for the nozzle B, the driving timing of the nozzle B must be retarded from ~~the~~ that of the nozzles A and C by 1 μsec in printing operation in the backward path. The discharge amount of the nozzle B differs depending on whether the driving timing of the adjacent nozzles A and C is advanced or retarded by 1 μsec. In general, the discharge amount decreases when the driving timing is retarded by 1 μsec.

The paragraph starting at page 67, line 24 and ending at page 68, line 11 has been amended as follows.

Referring to Fig. 34, test printing operations in the forward and backward paths of the ink-jet head are performed in advance to obtain a discharge amount control value for each nozzle in each test printing operation (steps S551 to S557). In printing in the forward path (YES in step S559), a discharge amount control value for printing in the forward path is set (steps S562 and S563). In printing in the backward path (YES in step S561), a discharge amount control value for printing in the backward path is set (steps S565 and S566). The above operation can compensate for the influence of adjacent nozzle crosstalk in the forward and backward paths, thereby making the discharge amount of a given nozzle in printing in the forward path equal to that in printing in the backward path.

The heading starting and ending at page 69, line 17 has been amended as follows.

(Other ~~Embodiment~~ Embodiments)